Winter Weather

Your Preparedness

Winter 2010/2011

Indiana Winter Weather Preparedness Week
November 14-20, 2010

Governor Mitch Daniels has proclaimed November 14-20, 2010 as Winter Weather Preparedness Week in Indiana.

The National Weather Service (NWS) will conduct a winter weather preparedness campaign during the month of November. The purpose of the preparedness campaign is to remind Indiana citizens of winter's hazards, how to stay safe, and to educate everyone about preparedness.

The Warning Coordination Meteorologist (WCM) serving your area will be available for interviews and questions.

Winter 2009-2010 In Review

The winter of 2009-2010 turned out to be a rather cold and snowy one for Indiana. A strong El Nino was in place by the winter which altered weather patterns and allowed cold polar air to flow into the Great Lakes region.

February snow in Muncie, Indiana

December was rather typical, as the month started with above normal temperatures for a few days. By the end of the month, winter had truly set in, as daily high temperatures were reaching mainly the 30s. A snowy pattern started to develop by the end of the month as well. December ended up with below normal temperatures and precipitation for much of the state. Snowfall totals, however, varied across the state as some places were above normal while others were quite a few inches below normal.

The new decade began with a cold and relatively snowy start to 2010. The biggest snow of the month for most locations occurred on January 7th. Snow and cold weather persisted into the second week of January as a persistent and near-record blocking ridge of high pressure in the Atlantic Ocean kept a cold Arctic flow of air into the Central United States. The blocking pattern which had been in place since early December finally broke down by mid month, allowing for a return to a more normal late January pattern. January ended up colder and drier than normal for much of the state. Again, snowfall totals varied across the state with most of the snow falling during the first 8 days.

The strong El Nino continued into February, allowing for another blocking ridge to set up over the Atlantic Ocean. Cold polar air plunged southward and kept February temperatures below normal across the state. Indianapolis' average temperature was 26 degrees, which is 5.2 degrees below normal! For the third month in a row, precipitation was below normal, but most locations ended up with above normal snowfall.

A full color version of this publication is available online at: www.weather.gov/ind

Winter 2010/2011
Inside this issue:

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Winter Weather Your Outlook

Winter 2010/2011

Winter 2010-2011 Outlook

December-February temperature outlook suggests warmer than normal conditions for Indiana.

What will this upcoming winter season bring to the Hoosier state? The official outlook issued by the Climate Prediction Center (CPC) is calling for above normal probability of above normal temperatures and precipitation. So what does this mean exactly?

The CPC uses a combination of techniques to derive their forecasts, which includes looking at active states of the Earth's atmosphere and oceans as well as statistical analysis tools and trends in the historical data. The outlook maps provide a probability forecast based on the analysis. Equal chances (EC) indicate that an area has a 33.3 percent chance of experiencing above normal, near normal, or below normal temperatures or precipitation. The EC category is often used when there is no strong signal as to what may occur. When an area on the map is shaded as having a higher probability of above or below normal conditions, it does not necessarily mean those conditions will occur, but it means the probabilities are higher for its occurrence. Temperature and precipitation forecasts for Indiana suggest odds favoring above normal temperatures and precipitation.

This winter, a moderate to strong La Nina (a cooling of the equatorial Pacific Ocean waters), is expected, and the atmosphere usually responds in an expected way, which leads CPC to forecast certain parameters with more confidence. A La Nina's impact on Indiana varies considerably depending on its strength. A moderate to strong La Nina typically brings wetter than normal conditions to Indiana with slightly above normal temperatures. Given the uncertainty of the eventual strength of this winter's La Nina, there is some uncertainty in this winter's long range outlook for our region. Regardless of a moderate or strong La Nina, when one is occurring, the favored storm track for weather systems is across the lower Midwest. As a result of this path for weather systems, the Great Lakes and Ohio Valley regions tend to be right in the path of weather systems, often receiving the brunt of their precipitation. Always check for the latest updates, which are issued near the beginning and middle of each month. CPC outlooks are available at http://www.cpc.noaa.gov .

December-February precipitation outlook suggests wetter than normal conditions for Indiana.

WINTER WEATHER TERMS...WHAT TO LISTEN FOR

Hazardous Weather Outlook — will be issued to alert the public of the potential for hazardous winter weather. This outlook will be issued daily and will provide weather information through the next 7 days.

Winter Storm Watch — alerts the public to the possibility of a blizzard, heavy snow, heavy freezing rain, or heavy sleet. Winter Storm Watches are usually issued 12 to 48 hours before the beginning of a winter storm.

Winter Storm Warning — issued when hazardous winter weather in the form of heavy snow, heavy freezing rain, or heavy sleet is imminent or occurring. Winter Storm Warnings are usually issued 12 to 24 hours before the event is expected to begin.

Ice Storm Warning - An Ice Storm Warning is issued when significant and damaging ice accumulations (usually one quarter inch or more) are expected.

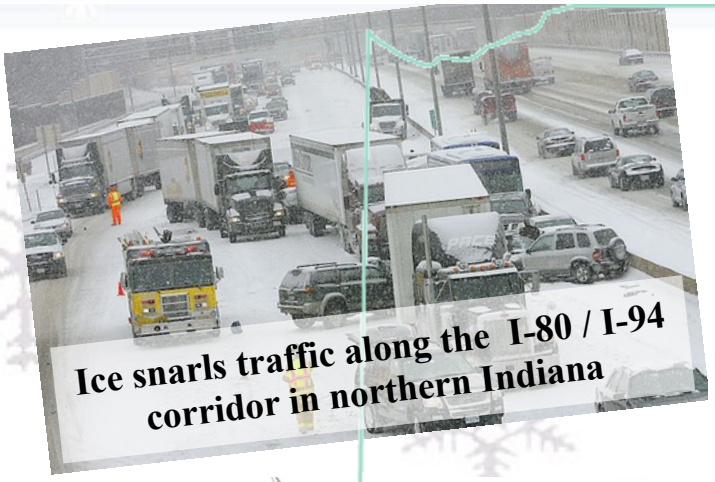
Advisories — issued for winter weather events that are hazardous, but not severe enough to warrant a warning. Advisories may be issued for: snow and/or blowing snow, lake effect snow, freezing rain, freezing drizzle, wind chill, wind, and dense fog.

Winter Weather

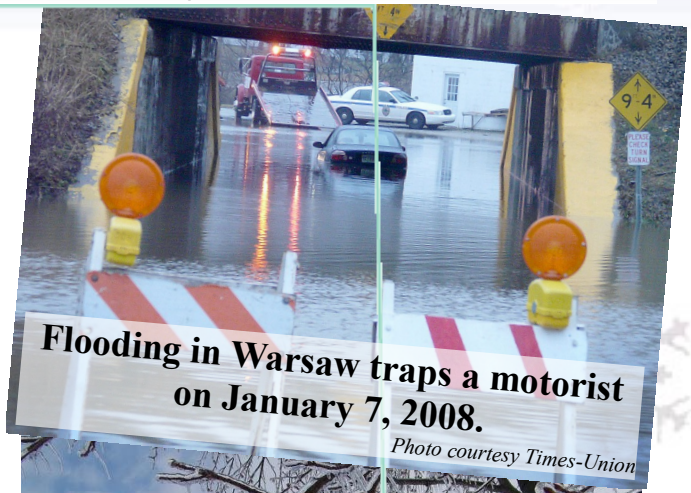
Severe Weather

Winter 2010/2011

Winter brings more than just snow. . .



Ice snarls traffic along the I-80 / I-94 corridor in northern Indiana



Flooding in Warsaw traps a motorist on January 7, 2008.

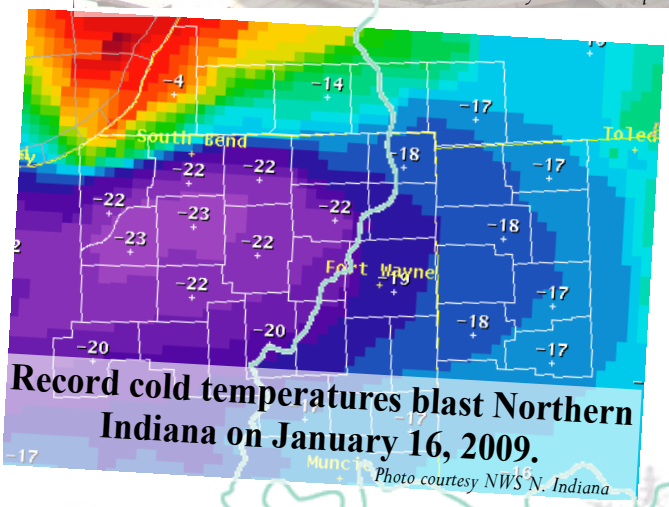
Photo courtesy Times-Union

EF-1 tornado touches down in Delaware County on February 11, 2009.

Photo courtesy NWS Indianapolis

Ice and snow storm causes widespread power outages in southern Indiana on January 26-28, 2009.

Photo courtesy Mike Curran



Record cold temperatures blast Northern Indiana on January 16, 2009.

Photo courtesy NWS N. Indiana

Snow storm strikes central Indiana with up to 17 inches of snow on February 12-14, 2007.

Photo courtesy NWS Indianapolis

Winter Weather Your Needs

Winter 2010/2011

American Red Cross

Be Red Cross Ready

Get A Kit. Make A Plan. Be Informed.

Vehicle Disaster Supplies Kit

- Blanket, rain gear, extra mittens, hats, etc.
- Non-clumping kitty litter, sand for traction
- Small shovel, pocket knife, small tools
- Brightly colored cloth (red) to signal for help
- Flashlight and extra batteries
- Bottles of water and high energy bars
- Candle and matches in a metal can to melt snow for drinking water
- Small first aid kit
- Newspaper to insulate; plastic bags for sanitation

Stay safe and warm at home

- Have extra blankets on hand.
- Use only portable heating equipment approved for indoor use and monitor closely, especially around children. Turn it off and unplug if you leave or go to bed.
- Keep combustible materials (clothing, furniture, drapes, etc.) at least three feet from the heat source. Never drape clothes over a space heater to dry.
- Do not use a stove or oven to heat rooms and don't overload electrical circuits.

For more information, visit
www.indyredcross.org/brcr/wintersafety.aspx

NOAA All Hazards Radio

Keep ahead of the storm by listening to NOAA Weather Radio for the latest winter storm watches, warnings, and advisories. In addition to routine broadcasts, the Specific Area Message Encoding (SAME) feature of NOAA Weather Radio activates the Emergency Alert System (EAS). EAS is used to provide notification of emergencies to the public. Blizzard warnings will always be distributed through the EAS, while other winter storm warnings may be if deemed life threatening or particularly urgent.

All Hazards NOAA Weather Radio
NOAA's National Weather Service™

Did You Know?

Special needs NOAA Weather Radios designed to meet the needs of the hearing impaired are available.

For more information, visit the NOAA Weather Radio Web Site at:
http://www.nws.noaa.gov/nwr.
For Special Needs NOAA Weather Radio information, visit:
http://www.nssl.noaa.gov/edu/safety/specialneeds.html

Winter Weather Your Plans

Winter 2010/2011

Winter Weather Preparedness For Schools

Gathering information

- *Know where to get weather information*: Utilize NOAA Weather Radio, local Media sources, Internet, and paging services.
- *Know how and where to get road information*: State Highway Departments or Law Enforcement are often your best sources for road conditions. City and county transportation or school officials, and drivers or security teams are also excellent sources.

Alerting students and staff

- *Alert students and staff to take action*: Use mobile communications for bus drivers, and a PA system for school staff and students.

Activating plan

- *Determine when to activate plan*: Gather information about the type of winter storm, expected impact, and time of impact on the school district. The primary decision will be whether to cancel, delay, or hold classes as usual. In Watch situations, immediate action will usually not be required. When a Warning or Advisory is issued, assess the weather situation by monitoring NWS forecasts, current weather conditions, and road conditions.

Canceling or Delaying Classes

- *Determine when to cancel or delay classes*: How much time do you have before the storm impacts the area? Not only must students be transported to school safely, but also back home via bus, car, or on foot. What kind of an impact will the storm make? Will roads be impassable, or will road conditions just have a minimal effect on transportation of students, causing only small delays?

School Bus Driver Actions

- *For heavy snow or blowing and drifting snow*: Be familiar with alternate routes, stay up to date on the latest forecast, and maintain communication with school officials.
- *For ice storms*: Remain alert for downed trees, utility lines, and other road hazards. Be familiar with alternate routes. Stay up to date on the forecast and maintain communication with school officials.
- *Extreme cold*: Learn to recognize and treat symptoms of hypothermia and frostbite.

Safety Instruction

- *Educate school staff and students*: Conduct drills and hold safety programs annually.
  - Participate in Winter Weather Preparedness Week campaigns.
  - Contact your local Emergency Manager or National Weather Service Office for a speaker to discuss winter weather safety.

Winter weather claims nearly 100 lives annually.

Winter Injuries

Related to ice and snow:

- About 70% occur in automobiles
- About 25% are people caught out in the storm
- Majority are males over 40 years old

Related to exposure to cold:

- 50% are people over 60 years old
- Over 75% are males
- About 20% occur inside the home

Winter Weather Your Health

Winter 2010/2011

With a wind chill temperature of minus 50°F, frostbite will occur within 10 minutes.

At minus 30°F, frostbite will occur within 30 minutes.

Frostbite

Frostbite is damage to body tissue caused by extreme cold. Frostbite causes a loss of feeling and a white or pale appearance in extremities, such as fingers, toes, ear lobes, or the tip of the nose. If symptoms are detected, get medical help immediately! If you must wait for help, slowly re-warm the affected areas. However, if the person is also showing signs of hypothermia, warm the body core before the extremities.

Hypothermia: Low Body Temperature

Warning Signs - Uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and apparent exhaustion.

Detection - Hypothermia occurs when the body temperature drops below 95°F. If a person's temperature is below 95°F, seek medical care immediately! If medical care is not available, begin warming the person slowly. Warm the body core before the extremities (arms and legs)! Warming the arms and legs first drives cold blood toward the heart and can lead to heart failure. If needed, use your own body heat to help. Get the person into dry clothing and wrap them in a warm blanket, covering the head and neck. **Do not give the person alcohol, drugs, coffee, or any hot beverage or food; warm broth is better.**

Wind Chill Chart

Temperature (°F)

Wind (mph)	Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5		36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10		34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15		32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20		30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25		29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30		28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35		28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40		27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45		26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50		26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55		25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60		25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98
FROSTBITE OCCURS IN:								30 minutes		10 minutes		5 minutes							

Winter Weather Your Actions

Winter 2010/2011

When Caught in a Winter Storm

At Home or in a Building

Stay inside. When using alternative heat from a fireplace, wood stove, space heater, etc., use fire safeguards and ventilate properly.

If you have no heat:

- Close off unneeded rooms.
- Stuff towels or rags in cracks under doors.
- Cover windows at night.

Eat and drink. Food provides the body with energy for producing its own heat. Keep the body replenished with fluids to prevent dehydration.

Wear layers of loose-fitting, light-weight, warm clothing. Remove layers to avoid overheating, perspiration, and subsequent chill.

In a Car or Truck

Stay in your vehicle. Disorientation occurs quickly in wind-driven snow and cold.

Run the motor about ten minutes each hour for heat:

- To avoid carbon monoxide poisoning, open the window a little for fresh air.
- Make sure the exhaust pipe is not blocked.

Be visible to rescuers:

- Turn on your dome light at night when running the engine.
- Tie a colored cloth (preferably red) to your antenna or door.
- After snow stops falling, raise the hood to indicate you need help.

Exercise from time to time by vigorously moving arms, legs, fingers, and toes to keep blood circulating and to keep warm.

Outside

Find shelter:

- Try to stay dry.
- Cover all exposed parts of the body.

If no shelter:

- Prepare a lean-to, windbreak, or snow cave for protection from the wind.
- Build a fire for heat and to attract attention.
- Place rocks around the fire to absorb and reflect heat.

January 26-28, 2009

A major storm system dumped over a foot of snow in central and southern Indiana and upwards to one inch of ice along and south of the Ohio River. The ice brought down thousands of trees and power lines, leaving thousands of homes and businesses without power.

January 1-5, 2010

An unusually long-lived lake effect snow event kicked off 2010. During this five day period, snowfall totals of 1 to 2 feet occurred over northwest Indiana and southwest lower Michigan.

February 12-14, 2007

A low pressure system produced a heavy snow event over central Indiana. Snowfall totals in some locations were upwards of a foot with Lafayette receiving 17 inches.

National Weather Service
6900 W. Hanna Ave.
Indianapolis, IN 46241

Winter Weather Preparedness Week Material
OPEN IMMEDIATELY!

Internet Sites

National Oceanic and Atmospheric Administration (NOAA)
http://www.noaa.gov

National Weather Service
http://www.weather.gov

National Weather Service Indianapolis
http://www.weather.gov/ind

National Weather Service Northern Indiana
http://www.weather.gov/iwx

National Weather Service Louisville
http://www.weather.gov/lmk

National Weather Service Paducah
http://www.weather.gov/pah

National Weather Service Chicago
http://www.weather.gov/lot

National Weather Service Wilmington
http://www.weather.gov/iln

NWS Office of Meteorology Winter Weather Page
http://www.nws.noaa.gov/om/winter

NOAA Weather Radio
http://www.nws.noaa.gov/nwr

Climate Prediction Center
http://www.cpc.noaa.gov

Federal Emergency Management Agency
http://www.fema.gov

Ready America
http://www.ready.gov/

Be Red Cross Ready
http://www.indyredcross.org/BRCR

Indiana Department of Homeland Security
http://www.in.gov/dhs/

Indiana Department of Transportation
http://www.in.gov/indot/

Indiana State Police
http://www.in.gov/isp/

Indiana Department of Education
http://www.doe.in.gov/